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U.S.DEPARTMENT OF AGRICULTURE

EARTERS' BULLETIN

633

Contribution from the Bureau of Plant Industry, Wm. A. Taylor, Chief, December 30, 1914.

GROWING PEACHES:1

VARIETIES AND CLASSIFICATION,

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VARIETIES OF PEACHES.

One of the great problems which peach growers have to consider is involved in the question, which is asked with great frequency, "What varieties shall I plant?" Success or failure, financially, is often determined by the way in which the question is answered. It has to be answered by some one in the development of every orchard. There is usually a chance for the exercise of individual choice within certain limits and the selection of favorite varieties, if there are any. The environment must be considered in the relation of its many factors to the hehavior of the varieties, the market conditions that must be met, and transportation facilities.

In many cases, the sequence of ripening is of very great importance and presents one of the most difficult problems to adjust satisfactorily. If a grower whose entire enterprise is the production of peaches wishes to ship fruit throughout the longest possible period, it is essential that his varieties be so selected that they will give him a continuous supply of fruit. Otherwise, there will be periods when his crew will have to he idle on account of breaks in the sequence of ripening; or it may be that at some periods he will have more varieties ripening at the same time than he can handle with the crew which is adequate for the greater portion of the crop. Either extreme presents a serious economic condition in the management of the orchard. To handle the crop satisfactorily and economically, a continuous and uniform supply of fruit is essential.

While the matter of the adaptability of varieties to different conditions calls for much consideration, it is usually a factor that is less

¹ This bulletin is intended for general distribution. Farmers' Bulletins Nos. 631 and 632 cover the general subject of peach growing and treat of fundamental orchard operations. In the preparation of this series of bulletins the author has very freely consulted the more important experiment-station literature on the subject, besides referring to many other sources of information. Credit is given wherever the information appropriated is tangible enough to warrant it.

acute than it is with many other fruits. In other words, there are doubtless a good many more varieties of peaches that will develop to a good degree of perfection under a wider range of conditions than is true of many of our other kinds of fruits. But the selection of varieties for growing in different sections that will ripen at a time when the markets are not overstocked is the real problem in this connection. Some districts owe their prominence and importance as peach-growing centers largely to the fact that some of the best market varieties ripen in those districts at times when they usually bring exceptionally large prices, because at those times relatively little fruit is being marketed from other districts.

In the further extension of the peach industry, the selecting of locations with reference to this factor is likely to contribute more to the financial success of the enterprise than the mere choosing of varieties that do well, but without regard to the time when they ripen in

comparison with the peach season of other districts.

Thus, a peach grower in New Jersey may know that the Greensboro peach docs well under his conditions, but that he can not market it to advantage when there is a good crop of Elberta peaches in Georgia, though it is profitable in seasons of light crops in Georgia. Similarly the Salway peach was formerly a profitable variety to grow in some parts of California, but in certain sections of that State it can not now compete to advantage with the Elberta peach from Colorado. Accordingly, the Salway peach is not found in many of the younger orchards in certain districts of California in which it was formerly a variety of considerable prominence.

From the foregoing statements the difficulty incident to the making of suggestions for the guidance of prospective peach planters in selecting varieties becomes apparent. The prospective peach planter can probably find a better guide as to varieties in the results obtained by experienced growers than by using any other source of information.

For the purpose of assembling information concerning the distribution of different varieties in different regions, approximate ripening periods, etc., a large number of growers in many representative districts throughout the country were requested to advise the Department of Agriculture as to the varieties of peaches that had proved to be the most desirable to grow either for commercial purposes or for home use under their respective conditions; also to give as nearly as possible the average date when the ripening season begins of each variety which they might name. A large number of responses were made to this request, and the information thus supplied is compiled below.

The data are arranged alphabetically by States, and under each State the varieties are grouped by counties. The general location of

each county or group of counties within the different States is also The varieties are placed in each list approximately in the order of ripening.

In making use of these data the reader must observe certain cautions to avoid being misled. Attention is directed to the following items:

- (1) The variety lists are only suggestive as to desirable sorts to plant in the different sections.
- (2) The sequence of ripening as indicated by the order of arrangement of the varieties in the different lists is only approximate.
- (3) The dates of ripening as given for the different varieties are only approximate. In some instances, where conditions vary widely within the counties grouped together, the ripening dates of a variety will be found to differ greatly in different orchards.
- (4) The mention of a county in the following lists must not be construed as evidence that the conditions therein are necessarily favorable to the development of a profitable peach industry. The data regarding variety distribution and ripening may be useful, nevertheless.
- (5) On the other hand, there are many localities in counties not named in any of the lists which are admirably adapted to peach growing. No attempt has been made to furnish a complete inventory of the counties in which peach culture is successful; therefore the omission of the names of counties in this connection is absolutely without significance so far as their adaptability to peach growing is concerned.

If the reader observes these cautions and regards the varietal data as a means of helping him to reach wise conclusions and not as fully considered and definitely stated facts, it is believed that this assemblage of variety lists will be of some value.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties.

State and sec- tion.	Varleties.	Begin to ripen.	State and sec- tion.	Varieties.	Begin to ripen
ALABAMA. Mobile, Escambla, and Washington Counties (southwest).		May 28. June 8. June 10. June 15. Do. June 20.	Benton Boone, and Washington Countles (northwest).	Triumph	Do. June —. Do. July 10. July 15-25. July 20. Do.
Cieburne and Lee Coun- ties (east central).	Carman Hiley Mamie Ross Belle Elberta	June 25. July 1. July 10. July 15.	Pike County (southwest).	HeathElberta *	Sept. 10-25.
ty (north-	Carman Waddell Mountain Rose Belle Ray Elberta	July 10. July 20. Do. Do.	Graham County (southeast).		

¹ Elberta is considered the only variety of commercial importance and is estimated to comprise 95 per cent of all the peaches planted in some localities in this section.
² Carman, Mamle Hoss, and other early sorts are grown to a very ilmited extent; Salway and other late varieties are produced in small quantities and develop to a good degree of perfection, but the prevailing prices received for them are unsatisfactory.
³ This variety is reported to be the most reliable as to crop.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties-Continued.

State and sec- tion.	Varieties.	Begin to ripen.	State and sec- tion.	Varleties.	Begin to ripen.
CALIFORNIA.			CALIFORNIA—		
San Dlego County (south),	Japan Dwarf Early Crewford. Strewberry Late Crawford. Yellow Cling Salway	June 20-July 1. July 4-15. July 15-Aug. 1. Aug. 20-Sept. 10. Sept. 20-Oct. 10. Oct. 20-Nov. 15.	Amador, Eldorado, and Placer Counties (central foothills).	Alexander Triumph Early Itale Imperial. Early Crawford. Strawberry	June 25-Aug. 5. July 5-Aug. 5. July 8-Aug. 8. July 11-21. July 30-Aug. 20 July 30-Sept. 19
Sonoma and Contra Costa Countles! (central coast).	Alexander			Orange. Late Crawford. Strawberry Cling Yellow Cling. Filberta. Yellow Free. Muir. Susquehanna. Lemon Cling. Piequet. Mo Devitt.	July 30-Oct. 31 Aug. 2-Sept. 3, Aug. 4-Oct. 13, Aug. 4-Sept. 13, Aug. 4-Sept. 16, Aug. 8-Sept. 16, Do. Aug. 20, Aug. 20, Aug. 24-Sept. 21
Sutter and Yuba Coun- tles (cen- tral valley).	Tuskena 2 Hauss Johnson Walton Albright Cling	July 15-Aug, 5, Aug, 1-15, Do, Do, Aug, 10-20,	COLORADO,	SalwayLevyPhilipsNorris	Sept. 3-Oct. 4. Sept. 3-Oct. 10. Sept. 4-20.
	Runyen Nichols Sellors Mulr Lovell Phillips	Aug. 15–30. Do. Do. Do. Sept. 1–15. Do.	Mesa County (west, Orand Valley).	Carman. Early Crawford . Foster. Elberta . Salway.	Sept. 1.
Bolano County (central val-	SneedAlexander	Sept. 10-25. May 28. May 29-June 18.	Delte County (west).	Sneed Triumph Greensboro	
ley).	Garland Triumph 6 St. John 5	June 5. June 11-30. June 13-July 9.		Carman Early Crawford . Elberte * Mulr 10	Aug. 20 Sept. 5-15.
	Dewey. Early Hale * Strawberry. Early Crawford * Foster *	June 30-July 12. June 30-July 22. July 4-24.	Montroso County (west).	Early Hale Early Crawford. Elberta II Lovell 12	Sept. 5-10.
	Decker. Orange Cling Mary (Mary's: Choice). Susquehanna	July 14-29,	Montezuma County (southwest)13	Champion	Aug. 15. Aug. 18. Aug. 20.
	Yeilow Free. Elberts * Late Crawford . Loveil Picquet. Salway *	July 25. July 24-Aug. 8. July 30. Sept. 2. Sept. 5.		Family Favorite St. John Foster Oldmixon Free Elberta Washington	
Butte County (northern valley).	Muir 1	Aug. 10-20.	Larimer County (north oen- tral).	Greensboro Belle Elberta	Sept. 5.

1 Peach interests are less important in these countles than in many other parts of the State.
2 This is generally known in California by its synonym Tuscan.
5 Except as stated in the next footnote, this list comprises the leading clingstone varieties grown in California that are largely used for canning.
4 These are freestone varieties. While they are canned to a considerable extent, they are the leading varieties grown in California for drying.
5 The peaches grown in this section are largely shipped in the fresh state. The valde range in dates of

grown only in small quantities.

These varieties are grown here almost exclusively for drying.

This variety excels connercially. The other varieties are grown but little.

The elevation is about 6,000 feet.

in This is grown to a very limited extent for drying.
in This variety excels commercially.
if This Is grown to a limited extent for drying and canning.
if The elevation is 6,400 feet.

The peaches grown in this section are largely shipped in the fresh stete. The wide range in dates of ripening is due to the difference in the location of the orchards. The dates show when the first shipment was made of the different varieties from different orchards in the vicinity of Vacaville in the season of 1913.
The varieties thus designated are the principal sorts grown in this locality. The other varieties are

GROWING PEACHES: VARIETIES AND CLASSIFICATION.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties—Continued.

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State and sec- tien.	Varietles.	Begin to ripen.	State and sec-	Varleties.	Begin-to ripen.
CONNECTICUT.			GEORGIA-con.		
Middlesex and New Haven Countles (south).	Mayflower Greensboro Waddell Carman Hlley. Mountain Rose Champion	July 28-Aug, 10. Aug, 8-15. Aug, 10-18. Aug, 20-25. Aug, 25-Sept, 5.	Habersham County (northeast).	Belle Elherta Fox Heath	July 10. July 20. Aug. 20. Sept. 25.
	Early Crawlord. Elberta. Stump. Late Crawford. Chairs.	Sept. 1-10. Sept. 1. Sept. 5-15. Sept. 8. Sept. 15. Sept. 20.	Canyon County (southwest).	Carman Minnie (Alton) Elberta Lovell Salway	Aug. 1-5. Aug. 5-10. Aug. 28-Sept. 12. Sept. 10-20. Sept. 15-Oct. 15.
	Fox. Iron Mountain. Stevens Salway. Bilyeu	Oct. 1-10. Oct. 5-10. Oct. 10. Oct. 15-20.	Kootenal County (north).	Mayflower. Alexander. Early Hale. Triumph. Carman. Minnie (Alton).	July 15. July 15-25. July 20. July 25. Aug. 1. Aug. 10.
Tolland and Litchfield Countles (north cen-	Greensboro Waddell Carman Mountain Rose.	Aug. 10. Aug. 20. Do.	ILLINOIS.	Champion Elberta	Aug. 20. Aug. 25.
tral and northwest).	Champion Belle Oldmixon Free Elberta Stump Crosby Fox Stevens Smock	Aug. 30. Sept. 1-10. Sept. 5. Sept. 10. Do.	Jackson County(south).	Mountain Rose. Washington. Ede. Elberta. Oldmixon Cling. Oldmixon Free. Stump. Schumaker.	July 30. Aug. 10. Do Do, Aug. 13. Aug. 20. Do. Do.
DELAWARE.		_		Stevens Ward Smock Heath	Sept. 1. Do.
Sussex County (south).	Greensboro. Carman Champlon Oldmixon Free. Belle Elberta Late Crawford Stevens Smock	July 25. Aug. 1. Aug. 10. Do. Aug. 15.	Cumberland County (east central). McDonough	Carnian Waddell Minnie (Alton). Champion. Elberta	Sept. 10. Sept. 15. Aug. 1-5. Aug. 2-10. Aug. 15-20. Aug. 20-30. Aug. 25-30.
Kent County (central).	Champion Belle Reeves Elberta	Aug. 10. Aug. 15. Aug. 20. Aug. 25.	(west central).	Sneed. Mamie Ross. Niagara Elherta Croshy.	July 1-15. Aug. 15-20. Do. Sept. 1-15. Sept. 5-15.
FLORIDA.			INDIANA.		
Volusia Coun- ty (east cen- tral).	Jewell	May 10-20. Do. May 25-June 1. Do. Do.	Jennings County (southeast).	Champion Mountain Rose Early Crawford Oldmixon Free Elberta Smock	Aug. 1. Aug. 15. Aug. 20. Do. Aug. 25-30. Sept. 10.
Alachua and Putnam Counties (north).	Jewell	May 25-June 5. June 1-15. June 15. June 20-25. July 1.	Rush and Hamilton Counties	Alexander	Oct. 1. July 10. July 15-20.
GEORGIA.			(central).	Triumph	July 25. Aug. 15.
Macon, Hous- ton, and Crawford Counties (central).	Mayflower Greensboro Carman Waddell Hiley Belle Elberta	May 20-June 5. May 25-June 10. June 5-20. June 10-15. June 15-25. June 20-July 2. July 1-10.		Early Crawford Foster Belle Kalamazoo Oldmixon Free Elberta Arctic Late Crawford	Aug. 25. Do. Sept. 1. Sept. 10. Do. Sept. 15. Sept. 20. Sept. 25.
Hancock County(east central).	Carman Hiley, Thurber Belle, Eiberta	June 26-July 8. July 8-15. July 8-18.		Stump. Ilannah. Lemon Cling. Wonderful. Heath.	Sept. 25.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties—Continued.

State and sec-	Varietles.	Begin to ripen.	State and sec-	Varieties.	Begin te ripen.
IOWA. Henry and Wayne Countles (southeast).	Triumph Forbes	July 10-25. July 25-Aug. 5. Aug. 1. Aug. 10-31. Aug. 25-Sept. 5. Aug. 28-Sept. 5. Sept. 1. Sept. 4-10. Sept. 4-10. Sept. 15-Oct. 10.	LOUISIANA. Bienvilla Parish (northwest). MARYLAND. Caroline County (east).	Early Wheeler Greensboro Carman Belle Carman Bello Bello Reaves Mary (Mary's Choice)	July 20-30. July 25-Aug. 5. Do.,
KANSAS.				Elberta Bequette Free	July 30-Aug. 10 Aug. 5-15.
Barber County (south central).	Carman Champion. Early Crawford. Foster. Chinese Cling. Elberta. Late Crawford. Stevens. Globe. Wonderful.	Aug. 1. Do. Aug. 15. Do. Sept. 1. Sept. 15. Sept. 25. Oct. 1.	Washington County (west).	Bequette Cling. Oldmixon Free. Chairs. Late Crawford. Heath. Troth. Carman. Champion Early Crawford. Chinese Cling. St. John. Mountain Rose. Oldmixon Free.	Aug. 16-25. Do. Aug. 25-30. Aug. 25-30. Aug. 5-15. Aug. 8. Aug. 10
Douglas,	Mammoth Heath. Leta). Sinced	Oct. 15. Oct. 20. June 15.		Reeves	Aug. 10-25. Do. Do. • Aug. 25-Sept. 1.
Franklin, Johnson, and Morts Countles (east cen- tral).	Arp. Alexander. Triumph. Dewcy. Karly Crawford. Mountain Ross. Champion. Belle. Oldmixon Free Edo Eitherta. Fitzgerald.	Aug. 10-30. Aug. 15-Sept. 15. Do.		Fox Chairs McCollister Geary. Wondorful Salway Levy. Wilkins Heath Bilyeu	Sept. 1-7. Sept. 5-20. Sept. 10-25. Sept. 15. Sept. 20-25. Sept. 20-30. Oct. 1-5.
	Late Crawford Chalrs Mathows. Smock Gold Drop Beors Smock. Wonderful Salway	Sept. 1-20. Sept. 5-15. Sept. 12-25. Sept. 15. Sept. 25. Sept. 28. Oct. 1-10.	MASSACHU- SETTS. Hampdon County (southwest)	Greensboro	Aug. 15-20. Aug. 20-25. Sept. 1-5. Sept. 5-10. Sept. 20-25.
Atchison and Jackson Counties (northeast).	Greensbore	July 20-25. July 20-30. Aug. 1-20. Aug. 20-Sept. 10 Aug. 20-25.	Middleses County (eas central).	t Carman Mountain Rose Early Crawford Bello Elberta Crosby	Aug. 20. Sept. 1. Sept. 1-12. Sept. 10-15. Sept. 10-20.
KENTUCKY.	1		Essex County (northeast)	Vietor Sneed 1	July 25.
Warren Coun ty (sout) central).	Carman Champion Early Crawford Elberta	July 25. Aug. 1.		Sneed 1 Triumph 1 Greeusboro Carman Waddell Champlon Early York	Aug. 15.
Hardin an Bullit Countie (north cer tral).	t Mountain Rose 8 Oldmixon Free	July 20-Aug. 4. Aug. 8-15. Aug. 10-15. Aug. 15. Aug. 20-Sept. Sept. 10. Sept. 15. Sept. 15.	III.	Mountain Ross Hiley Belle Fitzgorald Oldmixon Fre Kalamazoo Elberta Crosby	Aug. 28-30. Aug. 28. Sept. 5-10. Sept. 8. E. Sept. 10-12. Sept. 15-20. Do. Sept. 20-25. Sept. 23-30.

t These varieties are suggested for home use rather than for market.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties—Continued.

State and sec- tion.	Varieties.	Begin to ripen.	State and sec- tion.	Varieties.	Begin to ripen.
MICHIGAN. Berrien, Van- Buren, and Allegan Counties (southwest).	Dewey. Lewis. St. John. Champion. Engle. Kalamazoo. New Prolific.	Aug. 15-20, Aug. 25-30, Aug. 28, Aug. 28-Sept. 10. Sept. 1-10. Sept. 1-8.	NEW HAMPSHIRE. Hilisboro and Merrimack Counties (south central).	Triumph. Carman. Waddell. Mountain Rose. Champion. Early Crawford. Elberta.	Aug. 20-Sept. 1. Aug. 25. Sept. 1-15. Do. Sept. 5-10.
	Belle. Fitzgerald Elberta Gold Drop. Lemon Free. Beers Smock Smock Salway Allesworth	Sept. 1. Sept. 1-8 Sept. 5-15, Sept. 12-25. Sept. 15-Oct. 1. Sept. 15-25, Sept. 20-25, Sept. 20-Oct. 5,	NEW JERSEY. Burlington and Cum- berland Counties	Greensbore	Sept. 10-20. Sept. 15-20.
Eaton County (south central).	Lewis. Engle. Kalamazoo. Elberta. Chili Gold Drop ¹ .	Aug. 15. Sept. 5. Sept. 10. Sept. 15. Sept. 20. Sept. 25.	(south and west central).	Hiley	Aug. 10-15. Aug. 15-26. Aug. 15-20. Aug. 20-25. Aug. 26-Sept. 10 Sept. 1-5. Sept. 1-5.
Grand Traverse County (northwest, lower peninsula).	Alexander Rivers Triumph Dewey Fitzgerald Early Crawford Crosby New Prolific Elberta Chili	Aug. 5. Aug. 10. Do. Sept. 10. Sent. 15.	Middlesex, Monmouth, and Union Countles (east cen- tral).	Carman Ray Belle Elberta Elbison Willett Stump Stevens Keyport	Aug. 10-20. Aug. 10-Sept. 1. Aug. 15-Sept. 1. Aug. 25-Sept. 10 Sept. 1-20. Sept. 7. Sept. 15. Sept. 20.
MISSOURI,			NEW MEXICO.		
Oregon County 2 (south central). Howell County 4 (south central).	Elberta *		Chaves and Eddy Coun- tles (south- east, Pecos Valley).	Vletor	June 20-25. July 10. July 4.
Wright County (south central). Cole County (central).	Carman Champion. Elberta Salway Greensboro. Carman Mountain Rose Elberta Heath	<i>,</i>		Texas (Texas King) Mamie Ross Fainlly Favorite Superts champion champion cliberta a Late Crawford Crosby Beckett Lee	July 25. July 25-Aug. 1. Aug. 1-5.
NEBRASKA.				Salway Levy Krummel	Sept. 5.
Varieties most commonly found in the State.	Alexander Triumph Rivers Early Hale Champion Croshy Chill Russell Wright Heath Salway	Not reported.	Dona Ana County (south cen- tral).	Alexander Alexander Rivers Triumph Carman Texas (Texas King) Mamie Ross Early Crawford Belle	Oct. 1. June 20~30. June 20. July 15–20.

This is one of the most hardy varieties.
 The elevation is about 960 feet.
 Other varieties are grown in these counties, but the kilberta is the only one of real commercial importance.

4 The elevation is about 1,240 feet.

5 The elevation is about 1,680 feet.

6 Cansidered by some to be the most desirable varieties for commercial purposes.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties—Continued.

tate and sec- tion	Varieties.	Begin to ripen.	State and sec- tion-	Varieties.	Begin to ripen.
rew mexico-			NORTH CARO-		
County (south con- tral)—Con.	Elberta Late Crawford Keith Crothers Lemon Cling Salway	Aug. 1. Aug. 20–25. Sept. 20–25.	Moore County (central).	Mayflower Alexander Greensboro Carman Belle Elberta	June 1. June 10. June 20. July 5. July 15. July 20.
San Juan County (northwest).	Alexander	July 25-Aug. 15. July 15-Aug. 15. Aug. 15-Sept. 1. Aug. 25-Sept. 1. Sept. 1-10. Oct. 1-10. Oct. 8-10.	Lawrence, Clermont, and Ross Counties (south).	Greensboro Rivers Carman Champlon Mountain Rose New Prolific Oldmlxon Free	Aug. 1-15. Aug. 1-10, Aug. 1. Aug. 5-20.
Nassau and Suffolk Countles (southeast, Long is-land).	Carman Champlon Belle Elberta Stump Oldmixon Frea- Smook Iron Mountain Salway			Reeves- Eiberta Lale Crawford Stump. Chairs. Smock Wonderfui Ibenrs Smock. Salway Heath.	Aug. 15.—Sept. 1. Sept. 5. Sept. 10-20. Sept. 15. Do.
Westchester, Dutchess, and Ulster Countles (southeast, If u d son River Val- ley).	Greensboro Champion Niagara Elberta Fltzgerald * Crosby Late Crawford Stevens	Aug. 15-20. Aug. 25. Sept. 1-10. Sept. 1. Sept. 1-10.	Summit, Lnoas, and Lake Counties (north).	Carman St. John Champion New Prolific Kalamazoo Belle Elberta Gold Drop	Aug. 5–20, Aug. 10–25, Aug. 25–Sept. 2
Tompkins and Yates Coun- tles (cen- trai).	Greensboro Carman Champion St. John Early Crawford Elberta	Do. Aug. 20, Aug. 25-30, Sept. 1. Sept. 1-15.		Stump Crosby Lemon Free Smock. Salway.	Sept. 15-25.
	Chill Morris Stevens Stevens Late Crawford Smock Fox Iron Mountain Salway	Sept. 5-10. Do. Sept. 10. Sept. 15. Sept. 15. Sept. 20. Sept. 20. Sept. 25. Sept. 25. Sept. 25.	OKLAHOMA. Chorokeo, Logan, and Canadian Counties (central).	Mayflower Sneed Early Wheeler Mamie Ross. Hiley Champlon Fiberta Krummel Salway	June 10.
Oswego, Wayne, and Nlagara Countles (west).	Trlumph	Aug. 15. Aug. 20. Do. Do.	Jackson County (southwest).	Alexander Early Hale Early Crawford.	July 15. Aug. 1. Aug. 15.
	Mountain Rose- Fitzgerald. Niagara Foster Champion Wheatland	Sept. 10.		Elberta Muir Late Crawford Salway	Sept. 15. Oct. 15.
	Elberta Late Crawford Lamont Chill	Sept. 10-25. Sept. 20-25. Sept. 20-30.	County (northeast).	Arp. Early Crawford. Eiberta. Salway	July 15. Aug. 1. Aug. 25–30.

¹ These are considered the best vericules for commercial purposes.
² The following varieties named in the approximate order in which they are reported to ripen are given by the New York Agricultural Experiment Station (Circular 15, revised) as the "most worthy of consideration": Rivers, Greenshore, Eureka, Carman, Minnie (Alton), St. John, Waddell, Pearson, Foster, Stevens, Champion, Fitzgerald, Niagara, Belle, Early Crawford, Elberta, Oldmixon Free, Ede, Crosby, Late Crawford, Kalamazoe, Chill, Lamont, Smock, Salway.
From the same circular the following information regarding the hardiness of varieties is taken: "The five varieties of peaches most tander in wood. The five varieties of peaches most tander in wood. The five varieties of peaches most tander in wood. The five varieties of peaches most hardy in but are Crosby, Chill, Triumph, Gold Drop, and Elberta. The Crawfords Choix, Raeme, and Elberta." Chill, Triumph, Gold Drop, and Stavens. T Crawford, Chairs, Reeves, and Elberta."

This variety is recommended for home use.

GEOWING PEACHES: VARIETIES AND CLASSIFICATION.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties—Continued.

State and sec- tion.	Varieties.	Begin to ripen.	State and sec-	Varieties.	Begin to ripen.
PENNSYLVA- NIA.			BOUTH CARO-		
Bucks County (southeast).	Mountain Rose. Champlon Early Crawford. Elberts Late Crawford. Chairs Stevens Boers Smock	Aug. 1. Sept. 1. Sept. 15. Sept. 20.	Piokens County (west).	Sneed. Greensboro Carman Mamie Ross Connet. Belte. Elberta	June 18-30. June 20-July 2. July 10-25.
Berks County (southeast).	Greenshoro Carman Champion Belle Elberta Stevens	Aug. 4-10. Aug. 21-28.	South Carolina (entire State).*	Mayflower Greensboro Carman Mamlo Ross. Belle Elberta Crothers Oldmixon Free,	June 1-10. June 10-20. June 20-July 4. July 6-15. July 15-Aug. 1.
Clinton and Northum- berland	Sneed. Carman. Slappey.	July 10-15. Aug. 1-10. Aug. 15-20.	TENNESSEE.	Stinson	Oct. 10-20.
Counties (center).	Belle. Reeves. Oldmlxon Free. Elberta. Late Crawford. Crosby	Do. Aug. 25-30. Do. Sept. 1-15. Do. Sept. 10-15. Do.	Rhea County (southeast).	Carman Belle Early Crawford Reeves, Elberta Late Crawford Mathews	July 5-10. July 15-20. July 25.
	Stump Fox. Chalrs. Smock.	Sept. 15-20. Do. Sept. 20-25. Sept. 25-30. Sept. 30-Oct. 5.	Bedford	Bilyeu	
Vayne County	Bilyeu	Oct. 1-7.	County (central).	ASTRON GLOSSON	Not reported.
(northeast).	Sneed Canada Greensboro 1 Carman 1 Champion 1 Fitzgorald Hiley Belle 1	July 18. July 31. Aug. 2. Aug. 23. Aug. 28. Sept. 4. Sept. 8. Sept. 12.	Blounty County (cast cen- tral).	Sneed	May 25-June 5. June 10-25. June 25-July 10 July 15-30. July 20-Aug. 5. Do.
	Ray Reeves Elberta I Crosby Lato Crawford Iron Mountain	Do. Do. Do. Sept. 20. Do. Sept. 25. Do. Sept. 30.	Claiborne County (northeast).	Mountain Rose Belle.	June 20, July 4, July 15, Aug. 5,
HODE ISLAND.		.	Bexar and Victoria	Clara Early China	June 1. Do.
(southeast).	Champion Ray Kalamazoo	Aug. 10. Aug. 25. Sept. 1. Sept. 5. Do. Sept. 10. Sept. 20.	Counties (southeast).	Trlumph. Imperfal. Pallas. Gardina. Rupley	June 5. June 14. July 1. Do. Do. July 15. Do.
LINA.		,	Ì	Onderdonk	July 20. Do. Do. July 25.
ken and Lexington Counties (central).	Sneed Alexander Greensboro St. John Elberta	May 10-30. May 20. June 10-20. July 1-15.		Galveston. Guadalupe. Texas	Do. Aug. 5. Aug. 10. Do. Aug. 25.

1 These varieties are the principal commercial sorts.

\$ See South Carolina Agricultural Experiment Station Circular No. 21, entitled "Peach Culture for South Carolina," by C. F. Nivan, wherein a list of varieties adapted to the entire State is given.

Lists of peach varieties, showing approximate dates and sequence of ripening in different sections, arranged by States and counties—Continued.

State and sec- tion.	Varieties.	Begin to ripen.	State and sec- tion.	Varieties.	Begin to ripen.
TEXAS-con.			VIRGINIA—Con.		-
McLennan, Kaufman, and Mon- tague Coun- ties (north- east).	Sneed. Swan. Early Wheeler. Arp. Carman Mamie Ross.	June 10-15, June 15-25,	Botetourt County (west).	Greensboro Carman Champion Elberta	July 1. July 5. July 15. Aug. 1.
	Champion Elberta Chilow Munson Weaver Stinson	July 4-15. July 15. July 25. Aug.	County (cen- tral).	Globe Elberta. Late Crawford Heath Albright. Bllyeu	Aug. 3-10. Sept. 25-30. Oct. 1-10. Sept. 25-Oct. 10
County (northeast).	Victor Early Wheeler. Swan Carman Mamie Ross		Elizabeth City County (east).	Greensboro Carman Elberta	Not reported.
	Leona Elberta Tena Gübert Millard Frank Lizzle Barbara		Fairfax and Loudoun Counties (north).	Greensboro. Carman. Belle. Oldmixon Free. Elberta. Stump. Oldmixon Cling. Salway.	July 15-25,
Deaf Smlth	Katie	June 25-July 1.	WASHINGTON.	Alayandar	Tule 10
and Hale Counties (northwest, Panhandle).	Triumph	July 5-10. July 5-15. July 20. Do. July 25. Aug. 25. Sept. 15.	Benton and Yaklma Countles (south cen- tral, Yaki- ma Valley).	Alexander Early Itale Champlon Early Crawford Slappey Elberta Late Crawford	July 10. July 15. July 25. Aug. 5. Aug. 10. Aug. 15–20. Aug. 20.
UTAH.	Dalmont Horiacher Krummel		Chelan County (central).	Sneed	July 10. July 15. July 15-20. July 25-Aug. 16.
Washington County (southwest).	Briggs Greensboro Elberta	July 4. Aug. 15.		Elberta Late Crawford Krummel	Aug. 25. Aug. 25-30. Oct. 1.
Box Elder, Utah, and Weber Coun-	Muir	Sept. 20.	Stevens County (northeast).	Early Crawford Niagara Wager Late Crawford Elberta	Sept. 8. Sept. 10. Sept. 15. Sept. 20. Oct. 1.
tles (cen- tral and northern).			WEST VIR-		
VERMONT.			Morgan, Hampshire,	Carman	July 25-Aug. 5. Aug. 1-10.
Windham County (southeast).	Alexander Rivers. Canada. Early Crawford.	Aug. 15-20. Sept. 1-15.	and Mineral Counties (northeast).	Hiley Champlon Belle Oldmixon Free Reeves	Aug. 10-20. Aug. 15-20.
	Nlagara Oldmixon Frea Elberta Stump Crosby	Sept. 20.		Fox. Walker. Stoyens.	Aug. 20-Sept. 5, Sept. 1-20. Sept. 20-25. Sept. 20-30.
	Late Crawford	Sept. 25.	{	McCollister Beers Smock	Do.
Wythe County (southwest).	Belle. Champion. Eltzgerald	July 25. Aug. 1.		Smoek. Wonderful Levy. Heath.	Sept. 25-30. Do. Oct. 1-10. Do.
	Foster. Elberta			Salway	Do. Oct. 10-25.

¹ These varieties have received special attention in this county, where a considerable proportion of them originated. Nearly all of them belong to the "North China" or "Chinese Cling" group. This list of varieties, substantially as it here appears, was originally presented by Mr. I. W. Stubenrauch, of Texas, before a meeting of horizothurists held at Dallas, Tex., and later published in Farm and Ranch (Issue of Feb. 28, 1913, p. 9). They are named in about the order in which they ripen, this period for the entire list continuing for 3 to 4 months.

¹ This variety is grown almost to the exclusion of all other sorts.

COMMENTS ON THE FOREGOING LISTS OF VARIETIES.

As alroady stated, the foregoing lists are made up in nearly every case of varieties mentioned by growers in response to a request sent them from the Department of Agriculture to name the sorts which were considered the most satisfactory under their respective conditions. They represent practically the entire portion of the country where peaches are grown at all, including many sections in which this fruit is not a commercial product.

Several interesting observations are suggested by these lists. The comparatively small number of varieties which compose them is noticeable. The remarkably wide distribution of a considerable number of varieties, as is shown by the large proportion of the lists in which certain sorts occur, will at once appeal to those who are

studying varietal adaptability.

The fact is striking that in response to a request for the names of the most satisfactory varieties, growers all over the country reported, with but few exceptions, only the older and thoroughly tested sorts; and, conversely, the almost entire absence from these lists of recently introduced varieties stands out conspicuously to those who are

familiar with peach nomenclature.

This omission of the newer sorts does not mean that they are not being planted, but it probably does indicate that growers generally are not yet satisfied that the recently introduced varieties are superior to those with which they are already familiar. Perhaps it may suggest also the desirability of greater familiarity on the part of peach growers with the more promising of the newer sorts. But variety testing is expensive. Not many commercial peach growers have either the time or the inclination to take up this type of work. Yet the only way in which the real value of a new variety can be determined is to grow it. The fact that a variety is adapted to the conditions in one region proves little or nothing with regard to its value in another region, where the conditions are different. In some of the important peach-growing districts, especially where there are good cooperative fruit-growers' organizations, a community variety-test orchard might be a practicable onterprise.

CLASSIFICATION.

In the present connection, only a brief mention of peach classification can be made. Probably the first system that was worked out is the one proposed by Mr. Gilbert Onderdonk, of Texas, and published by the Department of Agriculture in 1887.¹

¹ See Report of the Commissioner of Agriculture, 1887, pp. 648-651. Considerable valuable information regarding peach classification has also been contributed by Prof. R. H. Price in Texas Agricultural Experiment Station Bulletin 39, cutitled "The Peach."

The basis of this classification is primarily regional, and the names applied to the classes or races largely represent the section of country in which the different races originated or from which they were disseminated. Though several modifications of the "Onderdonk system" of classification have been proposed, it is the one which is most widely recognized at the present time. The five races of peaches indicated in this system are (1) Peen-to, (2) South China, (3) Spanish. (4) North China, and (5) Persian.

The significance of these different races in the adaptability of varieties to the different peach-growing districts of the country is

indicated in the following comments.

(1) Peen-to race. The Peen-to race or group takes its name from the original variety, the Peen-to, which was introduced into this country in 1859 by the late P. J. Berckmans, of Augusta, Ga. With the exception of this member of the group, every variety which now belongs to it, according to Hume, has originated in Florida.1

These varieties are essentially adapted to subtropical conditions and very largely comprise the peach industry of the extreme southern portion of the country. Other important varieties of this group aro the Angel, Bidwell Early Bidwell Late, Clara, Hall, Jewell, Maggie,

Suber, and Waldo,

(2) South China race.—The South China race is perhaps now more commonly designated as the Honey group,2 the first variety of the group to be grown in the United States having borne that name. With few exceptions, the varieties which now compose this group have originated in Florida. Like the members of the Peen-to race, they are adapted to a subtropical climate, but their range of adaptability extends farther north than that of the members of the Peen-to raco. They may be grown in central and northern Florida and in the southern parts of Georgia, Alabama, Mississippi, Louisiana, and Texas. Some of the more important varieties are the Climax, Colon, Florida Gem, Imperial, Pallas, Taber, and Triana.

(3) Spanish race. The Spanish race was so designated by Mr. Onderdonk in his classification because he was unable to trace it with certainty farther back than Spain. Tho varieties that comprise this list, like those of the two races already discussed, are adapted to southern latitudes, but their range of adaptability does not extend as far south as does that of the members of those races. It does, however, reach somewhat farther north, as indicated by Onderdonk and others. Some of the varieties of this group as given by Price are the Cabler, Druid, Galveston, Guadalupe, La Reine,

Onderdonk, Texas, and Victoria.

For a full account of this group, see Florida Agricultural Experiment Station Bulletin 62, entitled "The Peen-to Peach Oroup," by H. Harold Hume.

For a full account of the Honey group of peaches, see Florida Agricultural Experiment Station Bul-

letin 73, entitled "The Honey Peach Oroup," by F. C. Relmer.

(4) North China race.—Because of the fact that the Chinese Cling variety of peach was the progenitor of the North China race in the United States, Powell has suggested, with consistency, the term "Chinese Cling group" in place of the one originally used as the name of the race.

This group has assumed great importance because of the wide range of adaptability and great commercial importance of some of the varieties which are commonly designated as belonging to it. The trees of this group are generally hardy, vigorous, and spreading in habit of growth.

Chandler,² of the Missouri experiment station, has called attention to the fact that, as a rule, the varieties of this group are among

the "slowest to finish their resting period."

Some of the most important varieties of this group are the Belle, Carman, Connet, Elberta, Family Favorite, Greensboro, Hiley, Lee, Lola, Mamie Ross, Ray, Rivers, Superb, Thurber, and Waddell.

It should be stated that several of these varieties, including the Elberta, are undoubtedly crosses between some member of the Chinese Cling group and one belonging to the Persian or some other group. In some particulars they resemble the latter parent. For instance, the Elberta is mentioned by Chandler as being an exception to the general rule that varieties of this group are slow in finishing their resting period. The fact that the Elberta starts quickly and is "tender in bud" is widely recognized. It is a seedling of the Chinese Cling crossed by a Persian variety—probably the Early Crawford.

(5) Persian race.—As the result of his investigations of the Persian race, Mr. Onderdonk concluded that—

The race includes all varieties springing from the importation from Persia to Italy during the reign of the Emperor Claudius, which was introduced into Great Britain about 1550 and to the American colonies about 1680.

These varieties, as a rule, blossom relatively late. Many of them are grown extensively in the northern peach districts, as well as in middle latitudes. Some of the important varieties placed by Price in this group are the Crothers, Foster, Heath, Gold Drop, Late Crawford, Lemon Cling, Mountain Rose, Oldmixon Free, Reeves, Salway, Walker, and St. John.

See Missourl Agricultural Experiment Station Bulletin 74, entitled "The Winter-Killing of Peach Buds as Influenced by Previous Treatment," by W. H. Chandler.

¹ See Delaware Agricultural Experiment Station Bulletin 54, entitled "The Chinese Cling Group of Peaches," by G. Harold Powell.